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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/767,505
Filing Date: January 28, 2004
Appellant(s): WARREN, ROBERT W.

_____

Allison Olenginski (Reg. No. 55,509)
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 7/7/08 in combination with the updated

Summary of Claimed Subject Matter [37 CFR 41.37 (c)(1)(v)] filed on 10/27/08 appealing from

the Office action mailed 12/12/07.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings

which will directly affect or be directly affected by or have a bearing on the Board's decision in

the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in

the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is

correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

20020169960	Iguchi et al.	11-2002
6,763,405	Sardo et al.	10-2001

5,790,811   Hewitt   5-1996

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 7-10, 13-18 and 21-25 are rejected under 35 U.S.C. 102(b) as being

anticipated by US Patent Application Publication No. US 2002/0169960 A1 to Iguchi et al.

(hereinafter Iguchi).

1.   With regards to claim 1, Iguchi teaches a host interface comprising:

a channel select bit encoder that asserts to a media controller one or more channel

select bits indicating one of a plurality of virtual channels through which the host interface will

communicate over a data bus with the media controller [paragraphs 90 and 119 – Figs 13 and

17, a channel select bit encoder exists inside element 120 which selects the virtual channel to

be used for communication to take place];

a virtual channel controller coupled to the channel select bit encoder that establishes a

connection for address-less transfer between the indicated virtual channel of the host

interface and a corresponding virtual channel of the media controller [paragraphs 90 and

119 – Figs 13 and 17, a virtual channel controller exists inside element 120 which is used for

establishing a connection with element 103 via a corresponding virtual channel].

2.   With regards to claim 2, Iguchi teaches the host interface of claim 1, wherein the
connection is a peer-to-peer connection [the virtual connection being a peer-to-peer connection
due to happening between the storage element and element 103 in the same layer - paragraphs
90 and 119] and the indicated virtual channel of the host interface and the corresponding virtual
channel of the media controller are used to establish the peer-to-peer connection to transfer
data between the host interface and the media controller [figs 5 and 7-12 show storage device
120 used to store data which is accessed by element 103].

3.   With regards to claim 3, Iguchi teaches the host interface of claim 1, wherein the
connection is a peer-to-peer connection [the virtual connection being a peer-to-peer connection
due to happening between the storage element and element 103 in the same layer - paragraphs
90 and 119] and the indicated virtual channel of the host interface and the corresponding virtual
channel of the media controller are used to establish the peer-to-peer connection to transfer
control signals between the host interface and the media controller [figs 5 and 7-12 show
storage device 120 used to store data which is accessed by element 103 by using control
signals].

4.   With regards to claim 4, Iguchi teaches the host interface of claim 1, wherein the
connection is a peer-to-peer connection [the virtual connection being a peer-to-peer connection
due to happening between the storage element and element 103 in the same layer - paragraphs
90 and 119] and the indicated virtual channel of the host interface and the corresponding virtual
channel of the media controller are used to establish the peer-to-peer connection to transfer
side band information between the host interface and the media controller [figs 5 and 7-12 show
storage device 120 used to store data which is accessed by element 103. Transferring data or
control signals over a channel requires the use signals. Signals have an upper and lower
amplitude as well as a frequency. The side of a signal having the upper amplitude is called the

upper side band and the side of the signal having the lower amplitude is called the lower side

band thus a channel communicating a signal transfers side band information].

5.   With regards to claim 7 Iguchi teaches a media controller [fig 17, inside element 103]

comprising:

        a channel select bit decoder [figs 3 and 17 - element 206] that decodes one or more

channel select bits received from a host interface [figs 13 and 17, interface in storage device

element] indicating one of a plurality of virtual channels through which the host interface media

controller will communicate over a data bus [fig 17 bus element connecting element 103 and

element 100 (element 100 should really be labeled 120 since it's referring to the storage device

– This appears to be a typo in the Iguchi reference)] with the media controller [paragraph 90 and

119];

        a virtual channel controller [fig 2 element 121] coupled to the channel select bit decoder

[figs 3 and 17 - element 206] that decodes the one or more channel select bits and establishes

a connection for address-less transfer between the indicated virtual channel of the host interface

and a corresponding virtual channel of the media controller selected based on the one or more

decoded channel select bits [paragraphs 90 and 119 – Figs 13 and 17 - a virtual channel

controller exists inside storage device element 120 which is used for establishing a connection

with element 103 via a corresponding virtual channel].

6.   With regards to claim 8 The media controller of claim 7, wherein the connection is a

peer-to-peer connection [the virtual connection being a peer-to-peer connection due to

happening between the storage element and element 103 in the same layer - paragraphs 90

and 119] and the indicated virtual channel of the host interface and the corresponding virtual

channel of the media controller are used to establish the peer-to-peer connection to transfer

data between the host interface and the media controller [figs 5 and 7-12 show storage device 120 used to store data which is accessed by element 103].

7.   With regards to claim 9 The media controller of claim 7, wherein the connection is a peer-to-peer connection [the virtual connection being a peer-to-peer connection due to happening between the storage element and element 103 in the same layer - paragraphs 90 and 119] and the indicated virtual channel of the host interface and the corresponding virtual channel of the media controller are used to establish the peer-to-peer connection to transfer control signals between the host interface and the media controller [figs 5 and 7-12 show storage device 120 used to store data which is accessed by element 103 by using control signals].

8.   With regards to claim 10 The media controller of claim 7, wherein the connection is a peer-to-peer connection [the virtual connection being a peer-to-peer connection due to happening between the storage element and element 103 in the same layer - paragraphs 90 and 119] and the indicated virtual channel of the host interface and the corresponding virtual channel of the media controller are used to establish the peer-to-peer connection to transfer side band information between the host interface and the media controller [figs 5 and 7-12 show storage device 120 used to store data which is accessed by element 103. Transferring data or control signals over a channel requires the use signals. Signals have an upper and lower amplitude as well as a frequency. The side of a signal having the upper amplitude is called the upper side band and the side of the signal having the lower amplitude is called the lower side band thus a channel communicating a signal transfers side band information].

9.   With regards to claim 13, Iguchi teaches the media controller of claim 7, wherein the connection is a peer-to-peer connection and the media controller limits access to a storage medium of a data storage device through the peer-to-peer connection [paragraph 50].

With regards to claim 14, Iguchi teaches the media controller of claim 13, wherein the media controller limits access to the storage medium based on one or more registers relating to each of the virtual channels of the media controller, the registers indicating a range of addresses on the storage medium that may be accessed via the related virtual channel of the media controller [paragraph 50].

10.   With regards to claim 15, it is directed to a data storage device including the combination of the elements recited in claims 1 and 7 above thus due to the claim reciting similar features, it is rejected under the same rationale.

11.   With regards to claim 16, it is directed to a data storage device including the limitations found in claim 2 above thus due to the claim reciting similar features, it is rejected under the same rationale.

12.   With regards to claim 17, it is it is directed to a data storage device including the limitations found in claim 3 above thus due to the claim reciting similar features, it is rejected under the same rationale.

13.   With regards to claim 18, it is directed to a data storage device including the limitations found in claim 4 above thus due to the claim reciting similar features, it is rejected under the same rationale.

14.   With regards to claim 21, it is directed to a data storage device including the limitations found in claim 13 above thus due to the claim reciting similar features, it is rejected under the same rationale.

15.   With regards to claim 22, it is directed to a data storage device including the limitations found in claim 14 above thus due to the claim reciting similar features, it is rejected under the same rationale.

16.   With regards to claim 23, Iguchi teaches the host interface of claim 1 further comprising:

a communication controller that transfers data between the host interface and the media

controller [figs 5 and 7-12 show storage device 120 used to store data which is accessed by

element 103] via address-less transfer [paragraphs 90 and 119 – Figs 13 and 17, a

communication controller exists inside element 120 which is used for transferring data with

element 103 via a corresponding virtual channel].

17.   With regards to claim 24, Iguchi teaches the media controller of claim 7 further

comprising:

> a communication controller that transfers data between the host interface and the media
>
> controller via address-less transfer [paragraphs 90 and 119 – Figs 13 and 17, a
>
> communication controller exists inside element 120 which is used for transferring data with
>
> element 103 via a corresponding virtual channel].

18.   With regards to claim 25, it is directed to a data storage device including the limitations

found in claim 23 above thus due to the claim reciting similar features, it is rejected under the

same rationale.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art
> are such that the subject matter as a whole would have been obvious at the time the invention was made to
> a person having ordinary skill in the art to whom said subject matter pertains. Patentability shall not be
> negatived by the manner in which the invention was made.

Claims 5, 11 and 19, are rejected under 35 U.S.C. 103(a) as being unpatentable over US

Patent Application Publication No. US 2002/0169960 A1 to Iguchi et al. (hereinafter Iguchi).

in view of US Patent No. 6,763,405 to Sardo et al. (hereinafter Sardo)

19.   With regards to claim 5, Iguchi is silent as to the host interface of claim 1, wherein the

communication controller transfers data to and from the media controller synchronous with a

clock in the host controller, however, Sardo teaches a host transmitting packets synchronously

with a clock in the host controller to a peripheral for the benefit of maximizing transmission

throughput to the peripheral [Sardo column 1 lines 23-27].

        It would have been obvious to one of ordinary skill in the art at the time of the invention

to combine the teachings of Iguchi and Sardo to have the communication controller transfer

data to and from the media controller synchronous with a clock in the host controller for the

benefit of maximizing transmission throughput to the peripheral [Sardo column 1 lines 23-27].

20.   With regards to claim 11, it is directed to a media controller having the limitations of

claim 5 above and thus is rejected under the same rationale.

21.   With regards to claim 19, it is directed to a data storage device having the limitations of

claim 5 above and thus is rejected under the same rationale.

        Claims 6, 12 and 20, are rejected under 35 U.S.C. 103(a) as being unpatentable over US

        Patent Application Publication No. US 2002/0169960 A1 to Iguchi et al. (hereinafter Iguchi).

        in view of US Patent No. 5,790,811 to Hewitt.

22.   With regards to claim 6, Iguchi is silent as to the host interface of claim 1, wherein the

communication controller transfers data to and from the media controller based on a quadrature

handshake model, however, Hewitt teaches exchanging a sequence of ready and

acknowledgement signals prior to a transferring data to and from a source and a destination (a

"quadrature handshake model" as per applicant's specification page 8 lines 16-20) for the

benefit of synchronizing the data source with the data destination for communication to take

place [Hewitt column 5 lines 11-39].

It would have been obvious to one of ordinary skill in the art at the time of the invention

to combine the teachings of Iguchi and Hewitt to have the communication controller transfer

data to and from the media controller based on a quadrature handshake model for the benefit of

synchronizing the data source with the data destination for communication to take place [Hewitt

column 5 lines 11-39].

23.   With regards to claim 12, it is directed to a media controller having the limitations of

claim 6 above and thus is rejected under the same rationale.

24.   With regards to claim 20, it is directed to a data storage device having the limitations of

claim 6 above and thus is rejected under the same rationale.

(10) Response to Argument

<u>Examiner's response to A-1:</u>

Paragraphs 90 and 119 recite:

"[0090] OPEN_CHANNEL 1201 is a command that the mobile terminal 103 issues to the storage device
120 in order to configure a virtual communications-path therebetween. The storage device 120 returns
the number of the virtual communications-path. The communications hereinafter are performed using the
virtual communications-path number.", and

"[0119] OPEN_CHANNEL 1600 is a command that the decoder circuit 206 issues to the storage device
120 via the storage device interface 207 in the mobile terminal 103 in order to establish the virtual
communications-path between the decoder circuit 206 and the storage device 120. Having received the
OPEN_CHANNEL 1600 command, the storage device 120 returns the number of the virtual
communications-path. The communications hereinafter are performed using this virtual communications-
path number. "

Both paragraphs disclose explicit support for "the host interface will communicate over a

data bus with the media controller" limitation in the last sentence of each paragraph, since they

state that communications [between the decoder circuit 206 which is part of the mobile terminal

103 and the storage device 120] hereinafter are <u>performed</u> using said virtual communication

path number. Furthermore, the data bus can be seen in figure 3 as element 208.

As for the establishing "a connection for address-less transfer between the indicated

virtual channel of the host interface and a corresponding virtual channel of the media controller"

limitation, the use of a virtual communication path (equivalent to Applicant's virtual channel)

excludes the use of destination addresses and thus the communication being "address-less". A

virtual path/channel communication is mutually exclusive from using an address based

communication to transfer data since they correspond to different technologies (i.e, the two

distinct types of communication methods are unabled to be both be true at the same time – it's

the difference between datagram networks (address based) and virtual circuit networks (virtual

channel based) for Packet-switched networks). When any system uses virtual path technology,

it won't use address based technology and vice-versa.

As for Iguchi disclosing a connection between a host interface and a media controller,

Fig 3 shows the mobile terminal element 103 (a host) including a storage device interface

element 207 (a host interface) coupled to storage device 120 via element 121 (shown in fig 1).

The Examiner notes that it is the mobile terminal element 103 that is a host, that includes a

storage device interface element 207 that is a host interface that is coupled to the storage

device 120 via module element 121 of Figure 1.

The Examiner notes that for claim 1, mobile terminal 103 is interpreted as a host

including a storage interface element 207 to be a host interface. However, for item 5 of the

Final Office action which is directed to claim 7, the mobile terminal 103 is interpreted to be as a

media controller that accesses media element 120 and the media controller interfaces with

element 100 and thus having a different interpretation that that of claims 1.

The Examiner further notes that Applicant's own admission in Applicant's remarks page

8 dated 2/12/08 which states:

"Iguchi, in contrast, establishes a "virtual communications-path between the decoder circuit 206
and the storage device 120." Iguchi at [0119]. The decoded circuit 206 is located within mobile terminal
103. Iguchi at Fig. 3. Thus, as shown in Fig. 2, Iguchi creates a virtual communications-path between the
decoder circuit in the mobile terminal (the host) 103 and the storage device 120."

Applicant's own admission is in agreement with the Examiner's interpretation of the

Iguchi reference which anticipates the instant claims.

It is the at leas the above reasons that the Iguchi reference anticipates the argued

claims.

Examiner's response to Argument A-2:

As noted in argument A-1 above, the Examiner notes that the Iguchi reference is

interpreted different when rejecting independent claim 1 and its claim tree than when rejecting

independent claim 7 and its corresponding claim tree. The Examiner has been consistent in the

manner of applying the reference to a group (1) consisting of claims 1-6 and 23, and also when

applying the reference to the group (2) consisting of claims 7-14 and 24. The examiner notes

that both distinct groups are directed to distinct embodiments of a host interface for group 1, and

a media controller for group 2 which are linked by linking claim 15 (which fails to include all of

the limitations found in claims 1 and 7) and thus why the Examiner has kept all groups within the

same application. The application of the references to the distinct grouping of claims is

consistent within the distinct groupings (claim trees).

The Examiner notes that the Iguchi reference does teaches the channel select bit

decoder and the virtual channel controller exist within separate components as is also allowed

in claim 7. The examiner notes that in claim 7, the media controller only calls for the channel

select bit decoder to be within the media controller, whereas the virtual channel controller only

has to be coupled to the media controller and may be located external to it (and is the way it is

being interpreted). Accordingly, Iguchi anticipates the claim.

Examiner's response to Argument A-3:

Due to claim 15 being a linking claim of claims 1 and 7, it is rejected as being a combination of claims 1 and 7. Also, Iguchi discloses a connection between a host interface and a media controller as disclosed in argument A-1 above.

Again, the Examiner notes that for claim 1, mobile terminal 103 is interpreted as a host including a storage interface element 207 to be a host interface. However, for item 5 of the Final Office action which is directed to claim 7, the mobile terminal 103 is interpreted to be as a media controller that accesses media element 120 and the media controller interfaces with element 100 and thus having a different interpretation that that of claims 1. As for the Advisory Action mailed March 17,2008, the Examiner was responding to Applicant's arguments arguing claim 1 and thus being of an interpretation that is different from claim 7. As for the communication pathway between a host interface and a media controller, again, the Examiner notes Applicant's own admission in Applicant's remarks page 8 dated 2/12/08 which states:

> "Iguchi, in contrast, establishes a "virtual communications-path between the decoder circuit 206 and the storage device 120." Iguchi at [0119]. The decoded circuit 206 is located within mobile terminal 103. Iguchi at Fig. 3. Thus, as shown in Fig. 2, Iguchi creates a virtual communications-path between the decoder circuit in the mobile terminal (the host) 103 and the storage device 120."

Applicant's own admission is in agreement with the Examiner's interpretation of the Iguchi reference which anticipates the instant claims.

Examiner's response to Argument B:

Applicant argues that because of arguments A-1 to A3, claims 5,11 and 19 are patentable. Examiner respectfully disagrees at least for the same reasons as those above under the response to arguments A1 to A3.

Examiner's response to Argument C:

Applicant argues that because of arguments A-1 to A3, claims 6,12 and 20 are patentable. Examiner respectfully disagrees at least for the same reasons as those above under the response to arguments A1 to A3.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related

Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/David E. Martinez/

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